Restoration of the Black Bear to the New Jersey Pine Barrens -

A Discussion of the Proposal and Assessment of Impacts

Prepared by

Robert C. Lund Patricia McConnell Steve Smyser

Bureau of Wildlife Management
April 23, 1981

Department of Environmental Protection
Division of Fish, Game and Wildlife
CN 400
Trenton, New Jersey 08625

Summary

This report describes and examines a proposal to restore the black bear (<u>Ursus americanus americanus</u>) to portions of its historic range within the Pine Barrens region of southern New Jersey. This will be accomplished through the capture of wild, free-ranging bears obtained from cooperating states and from northern New Jersey. The bears will be transported to selected sites in southern New Jersey and released. Work will begin in the spring of 1981 and releases could be made as early as June 1981, depending on availability of bears for transplant. Possible impacts of the restoration program are reviewed together with mitigation measures designed to control possible negative impacts.

Table of Contents

Summary

- I. Description of the Proposal
 - A. Objective
 - B. Justification
 - C. Description and Discussion of Field Operations
 - Determination of Habitat Suitability and Site Selection
 - Capture, Handling and Release of Bears
- II. Description of the Environment
 - A. The Resource
 - 1. Historical Perspective
 - 2. Present Distribution
 - 3. Description and Life History
 - 4. Habitat Requirements and Food Habits
 - B. Social Aspects
 - C. Economic Aspects
 - D. Expenditures

III. Environmental Impact of the Proposed Action

- A. Overall Impact
- B. Impact on Endangered, Threatened and Other Wildlife Species
- C. Impact on the Public
- D. Impact on Neighboring States
- IV. Mitigating Measures Included in the Action
 - A. Wildlife Control Unit
 - B. Information and Education Unit
- V. Unavoidable Adverse Effects
- VI. Relationship Between Short-Term Use of Man's Environment and Long-Term

 Maintenance of Environmental Productivity
- VII. Irreversible and Irretrievable Commitment of Resources
- VII. Alternatives to the Proposed Actions

Literature Cited

I. Description of the Proposal

A. Objective

The objective of this proposal is to reestablish a wild, self-sustaining population of black bears in areas of suitable habitat within its formerly occupied range in "Pine Barrens" region of southern New Jersey.

B. Justification

Though historically occurring statewide (Hamilton 1963), the black bear is now confined to the northern half of the state, primarily the counties of Sussex and Warren. The species has been absent from the south since the early 1900's (Stone 1907 and Thomas 1977), and though occasional reports of "bear tracks" and bear sightings are received, no

sightings have been confirmed south of Trenton for over 70 years. It is the considered opinion of the Division of Fish, Game & Wildlife that the species is no longer found in the southern half of the state.

The Pine Barrens contains approximately 1,000,000 acres (1562.5 square miles) of potential habitat which could cupport a black bear population of perhaps 100-150 individuals (Alt, pers. comm.). However, though the population in the northern portion of the state does appear to be expanding both in density and distribution, it is unlikely that the south would eventually be reinhabited through natural dispersion. The extensive areas of urban and industrial development separtating the Pine Barrens from the northern range is a significant deterrent to southern range extensions. In addition, the relatively small home range of female black bears, 23.6 square miles (Alt 1976) make it unlikely that females would "naturally" reach the south for generations, if ever. The home range of males is considerably larger, averaging 121.8 sq. mi. (Alt 1976).

The Division of Fish, Game and Wildlife recognizes its obligation to preserve and perpetuate the natural diversity of wildlife species, and to restore, where feasible and practical, native species to their historic ranges within the state. Extension of the present N.J. range of the black bear to the Pine Barrens would help insure the survivial of a viable population within the Garden State. It is also possible, assuming black bear populations reach an adequate level, that limited, controlled hunting of the species could once again be permitted. This would provide an increased recreational opportunity for Pine Barrens sportsmen. Human occupation of bear habitat in the north is increasing. Conflicts between bears and man will probably increase as available bear range decreases. The Pine Barrens

may well represent one of the few remaining areas within New Jersey in which the black bear can survive in the future. The growing awareness on the part of the general public of the value of wilderness and wildlife and the current efforts to "save" the Pine Barrens, would indicate that the time is now appropriate for the restoration of an extirpated species within this area.

C. Description and Discussion of Field Operations

1. Determination of Habitat Suitability and Site Selection

Sites throughout southern New Jersey, which historically were inhabited by black bear, were surveyed to determine their present suitability for this species. New Jersey biologists, together with a black bear biologist from the Pennsylvania Game Commission, made both aerial and ground surveys of the Pine Barrens. Criteria considered included availability of den sites and food sources, suitability of vegetative cover, and potential for human and agricultural conflicts.

Much of the area surveyed was found to be as "good" or better than areas in northwestern New Jersey and NE Pennsylvania which now have significant bear populations. One primary site and two secondary sites are being considered based on these criteria. The primary site is the central section of Greenwood Forest Wildlife Management Area, Ocean County. The secondary sites include the central sections of Wharton State Forest, Burlington County and the Peaslee Wildlife Management Area, Cumberland County.

2. Capture, Handling and Release of Bears

It is hoped that two sows with three cubs each, for a total of eight bears, can be obtained from the Pennsylvania Game Commission in June 1981.

Negotiations are currently underway between the Division and the Game Commission to obtain the animals (See Appendix I). Other states are also being contacted to develop additional sources. It is hoped that from 30 to $40 \ (10 \ 60 - 30 \ 40)$ bears can be obtained and released in the Pine Barrens within the next four years.

Due to their restricted home range and relatively secretive behavior, female bears are very difficult to capture. Fortunately, the Pennsylvania Game Commission has been studying its bear population for many years, and several animals have been fitted with radio signal transmitting collars. This will greatly facilitate location and capture. It is hoped that females with large litters, at least two cubs and hopefully three, can be obtained.

Once located, the adult bear will be captured with the aid of a "capchur" gun and anesthetizing drugs. The cubs, which will weigh from 10-12 pounds in June, will be captured by hand. The sow will be fitted with ear tags and streamers to allow for individual identification at a distance. In addition, a new radio signal transmitting collar, transmitting on a frequency that can be received by our equipment, will be attached (2 cell lithium powered, 350-400 gms. with an expected battery life of three to four years - Wildlife Material, Ill.). Cubs also will be ear tagged and streamered. The bears will be transported from the capture site in northeastern Pennsylvania (Pike Co.) via truck to the release site in south Jersey; a distance of approximately 110 air miles. It is hoped to capture and release the bears on the same day. However, holding the animals overnight would not be a problem.

Male bears will be obtained from cooperating states as well as northern New Jersey. It is possible that enough male bears can be obtained from within New Jersey alone. These will be captured with culvert traps and snares (Aldrich) and fitted with ear tags and streamers. Selected males may also be equipped with radio collars. The first upper premolar will be removed and processed to determine the age of the animal and weight recorded. The female bears to be obtained from Pennsylvania will have already been aged.

We do not plan to move male bears into the south until June 1982. However, if suitable animals are obtained this year, releases may be made. Males have extensive home ranges, and young males are especially noted for their extensive "dispersal" movements. It is felt that it is first necessary to establish females before introducing males. Female bears breed in alternate years. Those released in 1981 will not be receptive until June of 1982. Hopefully this will be enough incentive to encourage the males to remain in the area once released.

Following release, the bears will be monitored via the radio-signal transmitting collars and visual observation reports from Department personnel and the general public.

II. Description of the Environment

A. The Resource

1. Historical Perspective

Historically, the black bear occurred statewide (Hamilton 1963).

Thomas (1977) and Harshberger (1916) report that the bear roamed the "pine woods" of south Jersey with its coinhabitants the panther, timber wolf and bobcat. It "was said to be so common, that he would sometimes be seen sharing a blueberry patch with a lone human berry picker" (Thomas 1977).

The black bear was a source of meat, grease and fur for the Delaware Indians in south Jersey. Regensburg (1978) reports the black bear living in the region between Salem and Cape May and that it was "both still hunted and killed in hibernation" by the Delaware. Its bones, though not as abundant as those of white-tailed deer (Odocoileus virginianus), have been found in archaeological digs in the "Pines" (Regensburg 1978).

The black bear survivied in the Pine Barrens through the 1800's, apparently disappearing around 1900 (Stone 1907). No verified sightings have been confirmed south of Trenton in over 70 years. Why the black bear disappeared from the Pine Barrens is unknown, throughly over-exploitaby man was probably a factor. However, hunter harvest was never substantial. Between 1958 and 1970, 46 bears were legally taken by New Jersey hunters, all in the northern portion of the state. The hunting season has been closed since 1970 (Lund 1980a). In New Jersey, the black bear is currently classified as a game species with a closed season.

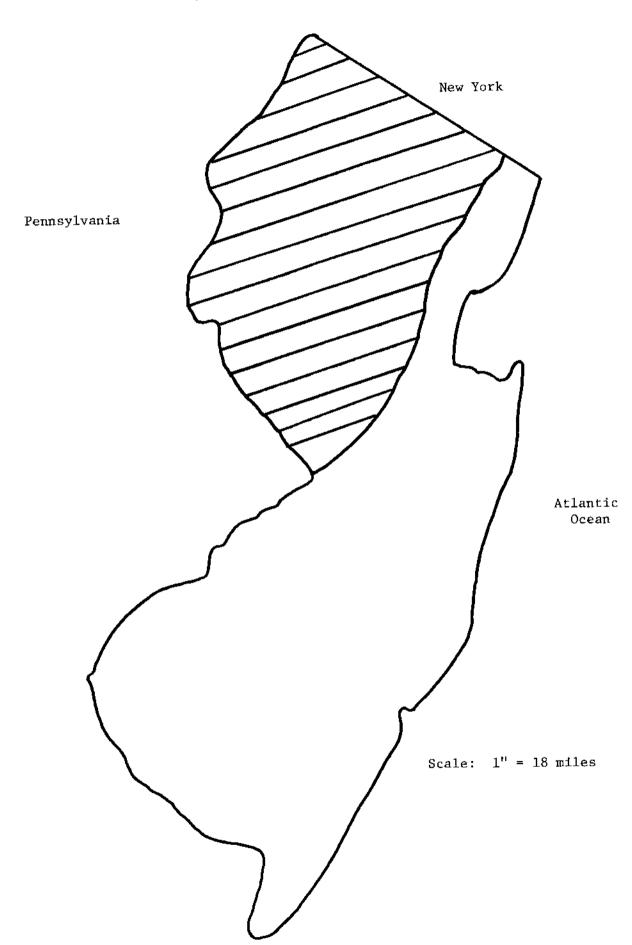
2. Present Distribution

Currently, the black bear is primarily confined to the northwestern portion of the state, with two counties (Sussex and Warren) producing over 58% of the total number of sightings reported between 1977 and 1980 (Lund 1980b). However, bears have been observed as far south as Mercer County and the species appears to be increasing both in density and distribution. It is now known to occur in nine of New Jersey's 21 counties. Table 1 summarizes the distribution of sighting by county from 1977-1980. Figure 1 illustrates the current known range of the black bear based on sighting and specimen reports collected during the past five years (Lund 1980b).

Table 1. The Distribution of Black Bear Sightings by County for Fiscal 1977-1980 (Lund 1980b)

Totals	No. %	17 12.1	7 5.0	5 3.5	6.9 th	11 7.8	5 3.5	55 39.0	27 19.2	0.001 لبا
1977	%	20.0	ı	I	20.0	ı	ı	40.0	20.0	
	្ឋ	α	ı	1	8	ı	ı	†	2	10
1978	%	5.3	ı	ı	10.5	5.3	f	36.8	42.1	
	No.	7	ı	ı	Ø	П	I	7	8	19
1979	*	12.9	ı	1	16.2	3.5	ı	†. 8‡	19.4	
ଥ	%	12.3	7 8.6	6.2	6.2	11.1	6.2	35.8	13.6	
1980	No.	10	7	ស	ſΛ	6	īΛ	29		81
Fiscal Year	County	Hunterdon	Mercer	Middlesex	Morris	Passaic	Somerset	Sussex	Warren	Totals

Figure 1. Current Distribution of the Black Bear in New Jersey Based On Sighting and Specimen Reports Collected from May 1975 Through June 1980 (Lund 1980b).



3. Description and LIfe History

The black bear is a medium sized bear, usually black though occasionally brown in color. Adults weigh from 200-400 pounds, however adult males weighing in excess of 600 pounds have been recorded in Pennsylvania. The average adult is approximately five to six feet in length and two to three feet in height at the shoulders (Burt and Grossenheider 1952).

Females probably become sexually mature at about three and a half years of age, though occasionally younger (Willey 1978). Males mature at the same age. Breeding usually takes place in June, with the young being born in January and February following a 200 to 210 day gestation period. Birth takes place in the winter den, while the female is in torpid state resembling hibernation.

The first litter usually consists of only one cub, however subsequent litters usually have two and frequently three cubs (Willey 1978). At birth, the cubs weigh eight ounces or less.

Females leave the winter den in March or April when the cubs weigh four to five pounds. The cubs remain with their mother through the fall and "den" with her in the following winter.

Females breed every other year and will eventually drive off the cubs of the previous litter prior to breeding.

4. Habitat Requirements and Food Habits

The black bear is an animal of the forest and swamp. It prefers mixed stands of hardwoods and conifers with a dense, brushy understory near a water source. Winter dens include hollow logs, caves in rocky areas, excavations under over-turned trees and brush piles or any place that provides protection from cold and snow (Godin 1977). Females are more selective of den sites

than males. Males will frequently winter above ground in a nest constructed in a bushy thicket or swamp (Alt pers. comm.).

Though the black bear is classified as a carnivore, it is omnivorous in its feeding habits. It will eat almost anything, but vegetable matter is by far the principal component of their diet. Studies conducted in Maine (Spencer, Jr. 1955) showed that vegetable matter comprised 76.7% of the annual diet. Figures 2 and 3 summarize the findings of this study. Table 2 summarizes the findings from Pennsylvania, Virginia and West Virginia concerning the major plant foods of the black, in addition to the seasonal changes in feeding habitats demonstrated by Maine black bears. A list of potential black bear food sources in the Pine Barrens is given in Appendix II.

B. Social Aspects

Re-establishment of a self-sustaining population of black bears in the Pine Barrens of southern New Jersey would give an added measure of interest and wildness to this, the last wilderness area remaining within out borders. Just knowing that a bear might be in the area would heighten the enjoyment of many Pineland recreationists. However, many still misunderstand and fear bears, and this fear would detract from their enjoyment of the outdoors. Some will fear for the safety of their pets and livestock. The agricultural community may be concerned with potential damage to various crops including blueberries and cranberries. The honey industry would be concerned with damage to hives and the loss of bees and honey. These issues will be addressed in the sections concerned with impacts and mitigation.

Table 2. Food Habits of Black Bears in the Northeastern United States

Seasonal food habits of black bears in Maine (after Spencer, Jr. 1955) based on examination of 108 stomach and 377 scats.

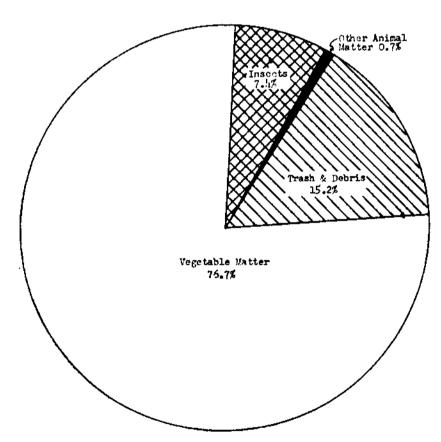
	Spring	Summer	<u>Fall</u>	All Year
Vegetable matter, %	59.1	80.1	48.8	76.7
Animal matter, including insects, % Trash and debris, %	33.0 	4.9 15.0	13.9 37.3	8.1 15.2
Total	100.0	100.0	100.0	100.0

Principal plant foods of the black bear in Pennsylvania (after Bennett et. al. 1943)

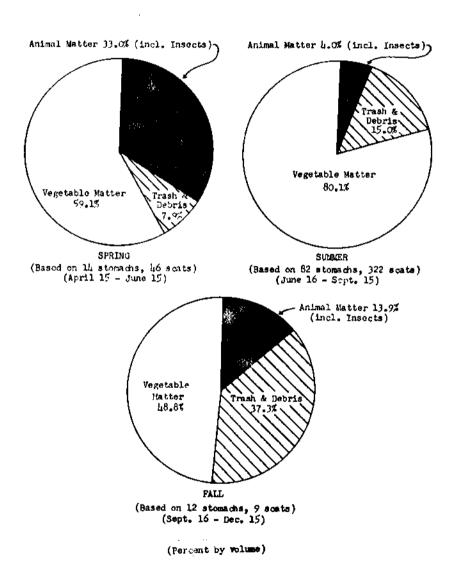
Species	% of Diet
Oak (acorns) Cherry (fruit) Beech (nut) Apple (fruit) Grape (fruit)	25-50% 25-50% 25-50% 5-10% 5-10%

Principal plant foods of the black bear in Virginia and West Virginia (after Martin et al. 1951).

Species	% of Diet
0ak	25-50%
Blueberry	10-25%
Apple	5-10%
Blackgum	5-10%
Grape	5-10%
Chokecherry	5-10%
Greenbrier	2-5%
Holly & sedge	0.5-2%



(Percent by volume based on 108 stomach and 377 scat analyses)



C. Economic Aspects

The human value of re-establishing the black bear in the Pine Barrens is primarily one of aesthetics and an effort to maintain the biological diversity of this ecosystem. Though the presence of black bear in the area may result in increased human visitation, this effect is not expected to be significant. Agricultural interests may experience economic losses due to bear depredations on apiaries and crops.

D. Expenditures

The black bear restoration program will be funded through hunting license revenues. No federal or state tax monies will be used to support this program. The following costs are estimated for the four year period of the restoration effort:

Category	Costs
Salaries Equipment (telemetry equipment, etc.) Transportation	\$7,620.00 5,100.00 2,520.00
Total (four year)	\$15,240.00

III. Environmental Impact of the Proposed Action

A. Overall Impact

An additional wildlife species will be present in the Pine Barrens, assuming the restoration effort is successful. The black bear, which historically was a member of the native biota of "the Pines" poses no threat to the survival of any other population of indigenous wildife. However, the black bear is an opportunist and an occasional individual from a vast variety of species will occasionally be taken. This is not considered a problem.

Black bears do not pose a serious threat to either livestock or pets in New Jersey. Their shy nature and preference for dense forests and swamp will minimuze areas of potential conflict. However, some potential conflicts do exist such as that between bears and bee keepers. Five reports of bear depredations on bee hives were recorded in 1979 and four in 1980. The possibility of bear damage to agricultural crops such as blueberries, cranberries, oats and truck crops must also be considered. The well-known penchant of black bears for human garbage may cause some individuals to become pests.

B. Impact on Endangered, Threatened and Other Wildlife Species

There is no indication that the black bear presents a threat to any species of endangered or threatened wildlife. What predation that does occur on these species, if any, will be minor in nature. Even if restoration efforts are successful, the black bear population inhabiting the Pine Barrens will not be large. A maximum expected density is estimated at 100 to 150 bears.

C. Impact on the Public

The knowledge that black bears once again occur within the boundaries of the Pine Barrens after an absence of over 70 years will give a segment of the population satisfaction. However, some will also be disturbed by efforts to reintroduce the species, considering it a threat to game populations, other wildlife species, pets, agricultural crops and public safety. Others may object to spending money on a project which in their view has little immediate human value. Still others may oppose the project because it involves the capture and marking of wild animals which they view as a form of harrassment and a violation of "animal rights".

D. Impact on Neighboring States

Both Pennsylvania and New York currently have substantial black bear populations. Bears captured and ear tagged in Pennsylvania have been observed in New Jersey on several occasions. Three ear-tagged bears were recorded in 1980 alone, two in Sussex Co. and one in Somerset Co. Pennsylvania biologists have also monitored radio-collared bears crossing the Delaware into New Jersey. It is felt that the recent increase in bear numbers in northern New Jersey is at least partially the result of the substantial black bear population in the bordering Pennsylvania counties of Pike and Monroe. It is apparent that black bears have and will continue to move in and out of northern New Jersey from Pennsylvania and New York as they have for centuries. However, due to natural and man-made physical barriers that will confine the bear population in the Pines, little interstate movement of this population is expected.

IV. Mitigating Measures Included in the Action

Measures which will eliminate or substantially reduce the adverse environmental impacts of the black bear restoration program include control of "problem" bears by the Division's Wildlife Control Unit and public education by the Information and Education Unit.

A. The Wildlife Control Unit

The Wildlife Control Unit has two representatives stationed in southern New Jersey who have been equipped and trained in the capture and handling of black bear and the procedures used to control or eliminate bear damage. The procedures for handling of nuisance or depredating black bears will be dictated by Division policy, which has guided similar efforts in northern New Jersey. A copy of the Division's policy concerning

nuisance and depredating bears is given in Appendix III and the letter sent to the Mayors and Chiefs of POlice of all New Jersey municipalities is given in Appendix IV.

The most significant potential problem to be considered is bee hive damage and the consumption of honey and bees. Control techniques designed to handle this type of problem include repellents, a variety of scare devices, hive elevation, electric fencing and bear relocation.

The proper use of electric fencing has been found to be extremely effective in controlling apiary damage (Alt 1979). The Wildlife Control Unit is equipped to provide portable electric fencing units to affect short term control. Specifications for the construction of permanent fencing are available to the landowners. It should be noted that a depredating bear will usually not return to a site once shocked.

If other methods are not effective, the offending bear can be captured and relocated. The Wildlife Control Unit is equipped with the necessary equipment and has been trained in its use by Pennsylvania Game Commission biologists experienced in the capture and handling of bears. Equipment currently available includes culvert traps, leg snares and capchur guns.

B. Information and Education Unit

The Information and Education Unit, through its public education efforts via publications, news releases, seminars, films, slide lectures and radio and television programs will inform and educate the public as to the positive aspects of the black bear restoration program. These efforts will stress the importance of wildlife diversity in restoring and maintaining the Pine Barrens ecosystem and will help to alleviate the fear many people

have of bears. It is also hoped that these efforts will help correct the attituted that seeing a bear make it a problem. There's room for both man and bear if we can only exercise a little tolerance and some understanding.

V. Unavoidable Adverse Effects

Some minor disturbance of vegetation may occur during release and monitoring operations. This will be minimal and its effects of short duration.

Segments of the human population may be disturbed for a variety of reasons, knowing the black bears have been released in the Pine Barrens. Some will feel that bears represent a threat to their personal safety as well as that of their livestock, crops and property. Educational efforts and quick response by the Control Unit to "real" depredation problems will minimize these adverse impacts.

The presence of black bears in an area may stimulate increased use of the area by a variety of outdoor enthusiasts interested in the species. This could results in some trespassing on private land, vegetation disturbance and littering. Additional expenses may be incurred for law enforcement and trash removal. Some people may attempt to feed bears, exposing themselves to possible injury.

VI. Relationship Between Short-Term Use of Man's Environment and Long-Term Maintenance of Environmental Productivity

This project will have minimum effect on the human environment and in fact is an attempt to replace a species which historically was a natural part of the Pine Barren's ecosystem. If successful, this program will help insure the survival of the species within the Garden State.

VII. Irreversible and Irretrievable Commitment of Resources

Monies used to fund this project will come from hunting license revenues. No funds are to be provided from either general state tax revenues or federal funds.

In addition, manpower, materials, energy resources and equipment will be expended. However, much of the equipment will be reusable for a long period of time.

Black bears will be removed from wild populations in cooperating states as well as northern New Jersey. However, the bear is a renewable natural resource, and these losses will quickly be replaced through immigration and reproduction.

VII. Alternative to the Proposed Action - No Black Bear Restoration Program Natural Repopulation of the Pine Barrens by Dispersal of Northern Population

It is highly improbable but possible that the Pine Barrens may eventually be reoccupied by black bears as a result of the natural expansion and dispersion of the north Jersey population. However, the northern population is small and primarily limited to the northwest corner of the state. Few "extra" individuals are currently available to colonize a new area as far removed from the primary range as the Pine Barrens. Second, the extensive urban and industrial development separating the north and south is an effective deterrent to southern movement. Third, the small home range and cruising radius of the female black bear make it highly unlikely that "natural" colonization could occur within our life-time, if ever.

In short, it is doubtful that the black bear can once again become a part of the Pine Barrens ecosystem without direct human intervention.

Literature Cited

- Alt, G.L. 1979. Bears, Beehives and Beekeepers. Gleanings in Bee Culture. p. 7.
- Alt, G.L. 1979. Home range and activity patterns of black bears in northeastern Pennsylvania. Trans. 33rd NE Fish and Wildife Conference. pp. 45-56.
- Bart, W.H. and R.P. Grossenheister. 1952. A Field Guide to the Mammals. Houghton Mifflin Co., Boston. p. 200.
- Bennett, P.F., P.F. English and R.L. Watts. 1943. The food habits of the black bear in Pennsylvania Jour. Mammal. 24(1):25-31.
- Hamilton, Jr., W.J. 1963. The Mammals of Eastern United States. Hofner Pub. Co., N.Y. p. 432.
- Harshberger, J.W. 1916. The vegetation of the New Jersey Pine Barrens. Dover Publications Inc., N.Y. p. 329.
- Lund, R.C. 1980a. New Jersey Status Report Fifth Eastern Black Bear Workshop. p. 12.
- Lund, R.C. 1980b. Black bear occurrence, distribution and damage incidence. Fed. Aid to Wildlife Final Report. W-52-R-8, Study No. VII-A. p. 22.
- Regensburg, R. 1978. Evidence of Indian settlement patterns in the pine barrens. Natural and Cultural Resources of the New Jersey Pine Barrens. pp. 199-213.
- Spencer, Jr., H.E. 1955. The black bear and its status in Maine. Dept. of Inland Fish and Game, Augusta. p. 55.
- Stone, W. 1907. Mammals of New Jersey. Annual Report of the N.J. State Museum, Trenton, pp. 33-110.
- Thomas, L.S. 1967. The Pine Barrens of New Jersey. p. 5
- Willey, C.H. 1978. The Vermont Black Bear. Vermont Fish & Game Dept., Montpelier. p. 73.

Appendix 1

April 8, 1981

SUBJECT:

PENNSYLVANIA GAME COMMISSION INVOLVEMENT IN NEW JERSEY'S BLACK BEAR RESEARCH AND MANAGEMENT PROGRAM

TO:

FROM:

Glenn L. Bowers Executive Director

Gary L. Alt

Wildlife Biologist

Yany L. Alt

The New Jersey Division of Fish, Game and Shellfisheries have expressed interest in developing a more active black bear research and management program. Several of their biologists have visited our Pocono Bear Study Area and observed bear capture and processing techniques. At their February 26, 1980 Biologist Meeting in Trenton, I presented a lecture on Pennsylvania's bear research and management. Between November 4-6, 1980, I assisted some of their personnel in setting out a small bear trapline in northwest New Jersey and participated in the capture and processing of their first bear.

New Jersey Biologists currently feel that there are less than 100 bears in their state, distributed primarily in the more remote sections of the northwest portion. This would be the area just east of Pike and Monroe Counties, Pennsylvania.

The potential for a viable and huntable bear population in the Pine Barrens of southern New Jersey is of particular interest to their Game Department. Historically black bear inhabited the Pine Barrens, however, they were extirpated from this region just after the turn of the century. Bear research from Pennsylvania and many other states have indicated that dispersal of females into unoccupied areas is both short in distance and infrequent, causing natural extension of their range to be very slow at best. In the case of the Pine Barrens, vast agricultural and urban areas separate it from occupied bear range and act as a barrier for natural stocking. Accordingly, if bears are to be established in the Pine Barrens, they will have to be stocked by man. This concept is not without merit as there was a notable success of bear establishment in Arkansas, introduced from Minnesota and Manitoba.

An appropriate question at this point might be, "Is the Pine Barrens capable and suitable for establishment of a bear population". With this question in mind the New Jersey Game Department invited me to visit the Pine Barrens and to state my opinion on the subject. After viewing the Pine Barrens from aircraft, truck and on foot and after looking at maps of the area, I believe there are several qualities that warrant a black bear re-establishment program in that region. The extremely large area involved is certainly a positive factor. The Pine Barrens encompass an area of about 1.1 million acres, or about 1,700 square miles. This is comparable in size to our Pocono Bear Range in northeastern Pennsylvania, where about 25 percent of our entire resource occurs.

Another positive factor is that there appears to be a lower human density, fewer roads, and in general, less human development in the Pine Barrens of New Jersey than in much of our bear range and particularly our Pocono Range. There is a good quality interspersion of dense cedar swamps throughout the Pine Barrens to provide excellent escape cover and there appears to be ample berry and mast production for survival of introduced bears. As in many areas, the limiting factor may well be human attitudes rather than habitat, however, the only way to tell is to try it. From a habitat standpoint I believe the Pine Barrens is an area with tremendous potential in supporting a viable and huntable bear population.

Assuming that the Pine Barrens is a suitable location for bear re-establishment, the next logical question is, "What would be the best way to implement such a program to ensure the greatest chance of success?" In an area where people are not accustomed to seeing bears, such as the Pine Barrens, it may be critical to the success of their re-establishment program to introduce bears that are less likely to turn up in adjacent urban areas or in a nuisance situation. Our research on movements of instrumented bears relocated greater than 100 miles indicate that solitary bears wander up to 60 miles while relocated females with young cubs, during May or June, will usually remain within 5 miles of the release site. Accordingly, the release of females with young cubs in the core area of the Pine Barrens, during the initial phase of this program should reduce the chance of bears turning up in undesirable, peripheral areas causing unwanted additional opposition to the introduction program. This would also establish the initial breeding stock that hopefully might attract introduced males and other solitary bears to the core area.

There are several reasons why I believe the Pennsylvania Game Commission should assist New Jersey in an attempt to re-establish black bear in the Pine Barrens. Female bears with young cubs during the spring or early-summer are the most desirable for the stocking program. Unfortunately, because of behavioral differences, they are almost never captured on research or nuisance trapping efforts until late-summer or early fall and by that time they would be too mobile. About the only way females with young cubs can be located and captured dependably during late-spring or early-summer is to have the mother bear radio-instrumented. Because of the low number of female bears with young cubs instrumented by game departments throughout North America, they are understandably reluctant to donate them. Pennsylvania Game Commission is monitoring more instrumented bears, at the present time, than probably any other game department in North America. We are presently monitoring about 60 bears (nearly all females, about 25 with small cubs) in the Poconos alone. After the closed bear seasons of 1977 and 1978 and the underharvests of 1979 and 1980, I suspect that we have more bears in the Poconos today than at any time in recent history. Also, with the large areas of private and posted land in the Poconos we may continue to have difficulty in reducing bear numbers. For the reasons listed above I am recommending that during June 1981 we donate two adult female bears, with their cubs, to the New Jersey Division of Fish, Game and Shellfisheries to be used in an attempt to re-establish a viable and huntable black bear population in the Pine Barrens of southern New Jersey.

Pennsylvania, over the years, has been the recipient of many game animals from a number of different states and provinces that have been instrumental in the re-establishment of some of our own wildlife populations—most notably the ringneck pheasant, beaver and whitetail deer. Between 1906 and 1925 we imported 668 deer; 64 of which were from New Jersey. I realize that traditionally the Pennsylvania Game Commission rarely, if ever, has supported the exportation of any of our game animals and I can appreciate the opposition to such actions. However, I believe the extenuating circumstances surrounding this particular case is justification for breaking this tradition. In this case a small contribution of two bear families may go a long way in game management and interstate diplomacy.

Appendix II. Potential Black Bear Food Sources in the Pine Barrens.

Vegetative

Specific General jewelweed buds strawberry roots grape bulbs wintergreen lichens grouseberry fungi blackberry mosses huckleberry sedges blueberry forbs greenbrier herbs blackgum grasses oak (several species) wood (bark & wild cherry sapwood) apple evergreen crab apple sassafras

Animal

insects and larvae
fish
birds and eggs
turtles (snapping)
carrion (variety of species)

BUREAU OF WILDLIFE MANAGEMENT PROPOSED POLICY STATEMENT BLACK BEAR SIGHTINGS AND/OR PRESENCE

The Bureau will be contacted in all incidences of black bear observations and presences, (S. J. Toth or F. A. Carlson 201-735-8793 -- nights and weekends 201-735-8822). The Bureau will be responsible for the gathering of information related to sightings and take all actions related to bear presence. In cases involving observations and/or confirmed presence, the following actions will be taken:

- (1) Division personnel will contact the Clinton office as to the observation or presence of a bear.
- (2) Except in emergency situations Division personnel will take no action without the verbal or on-site assistance of the Bureau of Wildlife Management.
- (3) Decisions concerning such sightings or presence will be based upon the following:
 - (a) In cases of unconfirmed reports no on-site action will be taken.
 - (b) In cases of confirmed sightings the Bureau will contact individuals involved to determine if it represents a danger to public welfare, and/or explain that the information is being cataloged and that the bear represents no immediate danger to the public welfare.
 - (c) In cases involving danger to the public welfare the Bureau will take such actions as are necessary to remove the offending individual bear from the area. Actions involving said removals shall be implemented by Bureau personnel, with such assistance as required by other Division personnel.
 - (d) Under no circumstances shall other public agencies or the general public become involved in removal actions unless specifically requested by the Director of this Division or his authorized agents.
 - (e) All statements to the press or the general public as to policy and/or actions taken shall be directed to the Bureau of Wildlife Management.



State of New Jersey DEPARTMENT OF ENVIRONMENTAL

PROTECTION

DIVISION OF FISH, GAME AND WILDLIFE RUSSELL A. COOKINGHAM DIRECTOR

PLEASE REPLY TO:
P. O. BOX 1809
TRENTON, NEW JERSEY 08625

April 15, 1981

Mayors New Jersey Municipalities

Dear Mr. Mayor:

In recent years, the Bureau of Wildlife Management has cooperated with various municipalities in north and central New Jersey in situations involving nuisance black bears. I would like to take this opportunity to explain our Division policy concerning these animals and make available the services of the Wildlife Management Bureau in this regard.

New Jersey presently has a native black bear population consisting of approximately 50 animals which is usually restricted to the extreme northern portion of the state. Each year we receive approximately 35 calls from both rural and suburban areas, reporting the presence of a black bear. Unfortunately, some of these callers feel that the mere presence of these bears represents a danger to the public's health and welfare. It has been our experience, however, that the public is in no way endangered by these situations.

If a bear is sighted, it should not be harassed or pursued and no attempt should be made to kill or capture it. It is in these instances that a potential danger to the public could be created. Also, under N.J.S.A. 23:4-1, et. seq., it is illegal to possess, take, kill or attempt to take or kill any black bear in this state at any time.

It is a fact, however, that some bears do get into situations where removal becomes necessary. In these instances the Bureau has personnel and equipment available to carry out this activity efficiently and effectively, and with the least degree of danger to all concerned.

If a situation develops where you need either information about bears, are reporting a sighting, or feel that you need the removal of a bear, please contact the Clinton Wildlife Management Area, Box 409, RD Hampton, NJ 08827, phone number 201-735-8793 during working hours, and the DEP Action Line, phone number 609-292-7172 during evening hours or on weekends.

N. J. DIVISION OF FISH, GAME AND WILDLIFE

Statement by Russell A. Cookingham, Director

Re: Proposal to Reestablish the Black Bear in the Pinelands of South Jersey

In keeping with the mandate of the Division of Fish, Game and Wildlife to maintain the density and diversity of New Jersey's wildlife resource the division is attempting to reestablish a number of native species of wildlife to portions of their historic range within the state. Historically, the whitetailed deer and beaver were brought back from the edge of statewide extinction through such reestablishment programs. More recent restoration efforts include those for the osprey, peregrine falcon, American shad, bobcat and wild turkey.

Recently, the division announced a proposal to restore the black bear to a portion of its historic range within the Pine Barrens. This proposal is currently being circulated for review and comment. The final decision on the proposal will be made by the Commissioner of the Department of Environmental Protection, following review of all comments and recommendations of the Fish and Game Council and other concerned agencies and organizations.

The division is currently meeting with groups such as the agriculture community which have expressed concern regarding the possible impacts of the program. In addition, the positive and negative aspects of the program will be discussed at several symposiums to be held this fall and winter which will permit all interested groups and individuals an opportunity to make their views known.

The concerns of all individuals and organizations will be taken into consideration before any policy decisions are made on the black bear restoration proposal.

Herelli Clif

August 4, 1981